

ABSTRACT OF THE DISCLOSURE

A system for engine compartment optimization includes a shared wall assembly for housing a plurality of functional components of a motor vehicle. The shared wall assembly includes a main body portion partially defining first, second and third chambers. The main body portion includes a first shared wall disposed between the first and second chambers and a second shared wall disposed between the second and third chambers. The shared wall assembly further includes an upper unit for further defining at least two of the first, second and third chambers, the cover member removable attached to the main body portion.